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DEPARTMENT OF TRANSPORTATION
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20591

A70-13

OFFICE OF
THE CHAIRMAN

March 12, 1970

Honorable John H. Shaffer
Administrator
Federal Aviation Administration
Department of Transportation
Washington, D. C. 20590

Dear Mr. Shaffer:

The Board's recent investigation of the nonfatal aircraft accident involving a Lear Jet, N714X, at Salt Lake City, Utah, on December 3, 1969, has disclosed an area of concern which we believe to have been connected with the causal area, and which should be brought to your attention.

Specific reference is made to the failure of both the arrival radar controller and the local controller to provide at least the minimum required horizontal separation between N714X and the Frontier Airlines Boeing 737 preceding it on approach to Salt Lake City in instrument meteorological conditions. Evidence indicates that these failures, particularly that of the arrival radar controller, may have been brought on by fatigue which had been induced, in great part, by the work shift schedule employed at the Salt Lake City Tower. (The same or similar work shift schedules may prevail at a number of other facilities, the names of which have not yet come to our attention.) Although these shifts are management-approved, it is our understanding that these have been arranged because the employees prefer them that way.

As an example, the work rotation schedule used at Salt Lake City has a controller start his week's tour of duty by working from 1600 to 2359. The next day his tour is from 1500 to 2300. This is followed by a 1000 to 1800 shift, an 0800 to 1600 shift, and then, with only 8 hours off duty, he comes back at midnight to work until 0800.

Much has been written regarding the fatigue associated with the performance of air traffic control duties. It is not our intent to get involved in this issue, but rather to point out that a rotation schedule of the nature of the aforedescribed will increase the fatigue

factor markedly over that which might be expected under a straight 5-day workweek on the same shift with rotation accomplished during days off.

In the instant case, the arrival radar controller had been working for 6 hours plus on his 1000 to 1800 shift at the time of the accident, had worked 1600 to 2359 on the previous day rather than 1500 to 2300, and had had but 5 hours sleep between his last shift and the one on December 3. He also was suffering from cold symptoms during that workweek, which would tend to compound the previously-mentioned fatigue problem. Instrument meteorological conditions prevailed at Salt Lake City during the controller's previous 1600 to 2359 shift, as well as throughout December 3.

The evidence pointing toward the implication of controller fatigue in this accident sequence does not lend itself to detailed discussion in this letter; however, our staff will be pleased to discuss the matter at greater length with such of your personnel as you desire.

In light of the foregoing, and in consonance with the recommendations of the Corson Committee in this regard, it is recommended that the shift rotation practices discussed in this letter be discontinued at those ATC facilities where they exist, and that so-called "short turnarounds" between 8-hour shifts be limited to unusual circumstances.

Sincerely yours,

John H. Reed

John H. Reed
Chairman